

VITRIFIED SUPERABRASIVE TOOL AND METHOD OF MANUFACTURE

ABSTRACT OF THE DISCLOSURE

An abrasive tool includes a superabrasive grain component, a filler component that comprises hollow bodies and a vitreous bond. Natural and synthetic diamond,
5 cubic boron nitride and combinations thereof can be employed as the superabrasive grain component. The vitreous bond component includes zinc oxide and at least two alkali metal oxides. The vitreous bond component can further include barium oxide. A method for producing an abrasive tool includes combining a superabrasive grain component, a filler component that includes hollow bodies and a vitreous bond
10 component that includes zinc oxide and at least two alkali metal oxides. The combined components are fired at a temperature in a range of between about 600°C and about 850°C, preferably in an ambient air atmosphere.